43rd YEAR OF PUBLICATION

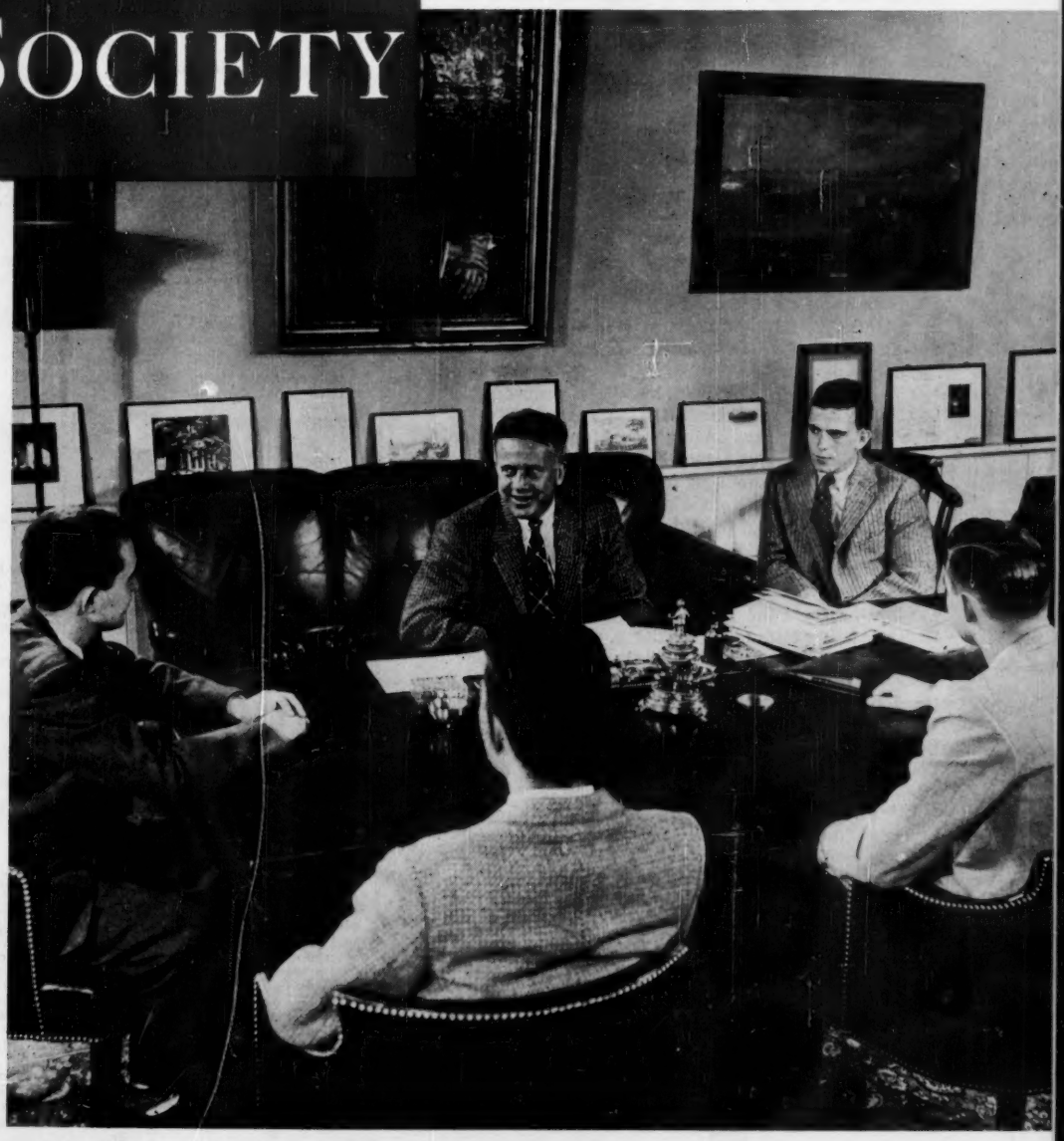
SCHOOL AND SOCIETY

SUMMER, 1957, ISSUE

AUGMENTING OUR SCIENTIFIC AND ENGINEERING MANPOWER RESOURCES

By JAMES R. KILLIAN, JR.

A RETREAT FOR STIMULATING INTELLECTUAL INTERESTS



Amherst College: Personal Contact in Higher Education (See Page 224)

Educational Ticker Tape

If additional, detailed information is desired concerning news items in this column, write to SCHOOL AND SOCIETY'S Information Service, enclosing 25 cents for each item requested.

Enrollments at professional nursing schools in the U. S. and territories declined from 46,498 in 1955 to 45,839 in 1956, according to John H. Hayes, chairman, Committee on Careers, National League for Nursing. This was the first year since 1952 that admissions to these schools dropped and thus failed to keep pace with the steady growth of the college-age population. Practical nursing programs, which are usually one-year nursing courses offered by hospitals, community agencies, and vocational schools, admitted about 15,500 new students in the academic year 1955-56, a total close to the previous year's admissions. In only one type of basic nursing education program did 1956 admissions exceed those of 1955, and this was in the college and university program offering a baccalaureate degree. This reflects a continuation of the growing interest in college and university education for a nursing career . . . **The Huron Road Hospital School of Nursing** at Fenn College will launch an experimental program in Sept. to bring nursing careers within easier reach of more veterans by accepting military personnel with training and experience as medical technicians for further education leading to the diploma in nursing.

The Government of India has been granted $1,500,000 by the Ford Foundation for training 200 Indian engineers in the management and production methods of the U. S. steel industry. The training, to begin in Sept. for a period of one year, will be conducted by America's eight largest steel companies. Co-operating technological institutes in the vicinity of the plants to which the trainees are assigned will provide academic instruction . . . **Illegible handwriting** will prevent about 35% of the students graduating from the nation's schools this June from understanding each other's writing, according to The Handwriting Foundation. U. S. business is particularly concerned. Frank King, executive secretary of the foundation, explained that "business firms lose tens of millions of dollars each year because of poor penmanship. Many losses have been traced to illegible order forms and sales slips and carelessly recorded information for company inventories."

Ideas for increasing effectiveness of teaching will be tried out in Chicago University's Laboratory Schools and co-operating school systems. Work of the program, financed by a $300,000 grant from the Fund for the Advancement of Education, will include basic research, teacher training, and administrative reorganization . . . **To broaden each student's experience** with all the important fields of man's knowledge, Wheaton College has revised its distribution requirement, effective this Sept. Under the new plan, every student must take a year of English composition and a year of a foreign language and receive instruction in health and physical education. The student also must choose six one-year courses from each of the following fields: sci-

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SCHOOL AND SOCIETY

JUNE 22, 1957

Volume 85 Number 2114

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Pres. Charles W. Cole of Amherst College with a committee of undergraduates. *Amherst College photo*

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Education's International Journal

SCHOOL AND SOCIETY Changes Summer Schedule, Volume Size, and Index

FOR THE FIRST TIME in its history, SCHOOL AND SOCIETY will change its summer publishing schedule to make way—on a permanent basis—for occasionally larger biweekly issues during the regular academic year, September through June, when the nation's schools and colleges are in full session and the demand for professional reading matter is at a peak. The trustees of the Society for the Advancement of Education have voted to suspend the July and August issues every year; thus, the June 22nd number is the last to be released until resumption of the biweekly schedule with the Sept. 14, 1957, issue.

The special issue in honor of I. L. Kandel, international scholar and educator (Jan. 21, 1956), launched the Society's plan to increase the services of the journal, whenever financially possible, through additional pages. By the end of 1956, the Society had published a total of seven larger issues. Four enlarged issues already have appeared during 1957, including the current one for June 22 which is double the size of a general issue and even exceeds, in contents, every large special issue published so far.

The Society also will change its policy of issuing semiannual volumes and indexes. Effective with Volume 85, SCHOOL AND SOCIETY will complete one large volume annually, January through December, instead of two small volumes every six months as in the past. A cumulative index, providing a comprehensive listing (with cross-references) of all subjects and authors presented in SCHOOL AND SOCIETY in a single calendar year, will appear in the last issue of every December.

Readers have expressed a preference for these changes. In the readership survey of last fall, 84% of the questionnaires returned were in favor of occasionally larger regular and/or special issues during the school year replacing the July and August issues; 60% approved of volume numbers running on a calendar-year basis; and 88% stated that the index would be equally useful if published annually.

Other findings of the survey revealed SCHOOL AND SOCIETY's usefulness to readers: 77% of the educators who responded to the questionnaire indicated that they retained all copies of the journal as permanent reference; 66% used or referred to the journal in the classroom; 68% had need for the index; 70% found the book advertisements helpful when they wished to purchase reading matter; 79% valued the biweekly appearance of the journal; 64% preferred more special issues than usually scheduled; and 83% have been finding current issues more informative.

In addition to the recommendations noted in the survey, the editors will continue to consider further suggestions from readers when planning future issues. The Society's primary objective is to provide the kind of service most beneficial to the most readers.

STANLEY LEHRER

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Augmenting Our Scientific and Engineering Manpower Resources[1]

By JAMES R. KILLIAN, JR.
President, Massachusetts Institute of Technology

THE PRESENT DEARTH of scientists and engineers in the face of a greatly increased demand is not simply a shortage of men, but basically a shortage of intellectual talent adequately educated and in the right place; it is more a shortage of specific talents and skills adaptable to specific areas than a general shortage of numbers. The shortage of high talent is aggravated by the fact that too many young people of exceptional intellectual ability drop out of our educational system before they have achieved an education which fully exploits their abilities.

The loss between high-school and college graduation has been repeatedly reported. Of the ablest 50% of high-school graduates, only about a third receive college degrees. Of the best two per cent of our high-school graduates, only about two-thirds now graduate from college. These facts show that too many of our ablest youth fail to get the kind of education their abilities deserve, and that, without dropping standards, we can achieve only a limited increase in our college population by stepping up the percentage of high-school graduates who go to college. Both conclusions stress the importance of motivating and using more of our exceptional talent and directing our attention to its conservation and cultivation.

One reason we are in trouble now is that some secondary teachers and administrators have placed a low value on science and shown an inadequate understanding of its intellectual requirements and its importance to our society. As we seek to give science its proper place and emphasis in the secondary school, we should not overshoot and place a low value on other fields and thus bring about their neglect.

Let us examine the qualitative aspects of the current excess of demand over supply, using as an example the increasingly selective demand for engineers. Employers are not looking merely for "bodies" with degrees, but for a sound education in fundamentals, for analytical power, for a grasp of the new and advanced fields of technology. They are looking more and more for men and women with graduate degrees.

In this new pattern of demand lies the pattern for a modernized engineering education. Similarly, in the basic sciences our most pressing needs are for scientists who have the imagination and trained creative power to make the discoveries and generate the new concepts which advance science—who have the trained talent, the motivation, and the conceptualizing power to make basic research really basic.

The secondary schools must first shore up the sagging emphasis on science and begin filling in the decimated ranks of science teachers—not with culls from other fields, but with teachers possessing a grasp of science and the perception to identify and stimulate youngsters with the bent and capacity for science. It is important for the secondary-school vocational counsellors to understand the scientific manpower needs of the country and not to harbor misapprehensions about scientific and engineering careers, particularly because so many of them had no opportunity to gain any insight into science. We must identify scientific talent as early as the seventh grade. There is the need for more rigor, more emphasis on excellence in the secondary school. Much of the flight from science in the secondary school has resulted from the fear of science as a difficult subject of study. In the pejorative argot of the high-school youngster, only a "brain goes for science" and sometimes a brain is considered a "queer." With such attitudes in the ascendancy, science is avoided in favor of subjects which are less demanding, more descriptive, more easily passed, more easily taught.

Blame for this aversion to rigorous thinking

[1]Based on the annual Sigma Xi address, American Association for the Advancement of Science, Atlanta, Ga., Dec. 27, 1955.

rests even more with parents. There has been avoidance, if not evasion, of the intellectual tax which must be paid if our intellectual budget is to be balanced. Any strategy for strengthening manpower resources must give attention to this fatty degeneration in our education. At a time when we are forced to match wits on every front with an alert enemy of growing prowess, America's survival requires that the American people attach a higher value to the hard labor of rigorous thought.

The high-school program should be flexible so that an early election of program does not commit a boy or girl irrevocably to some prematurely selected career or educational program. Too often gifted young people elect a program which makes it difficult for them to go to college, if later their sights are raised or their circumstances change. We must avoid creating dead-end kids who become caught in educational cul-de-sacs when they have the ability to travel farther up the avenue of education.

Public schools have much more to do than to prepare young people for college: they should meet the needs of children of different abilities, backgrounds, and aspirations. But a better understanding of the importance of priorities and discriminating choices can temper our prodigality of aims by sobering considerations of quality, social and intellectual needs, and achievable goals. The highest priorities should be given now to better provisions for the intellectually gifted, to the more rigorous teaching of intellectual skills, and to higher standards of excellence for both teachers and pupils.

Success in promoting these broader objectives will improve the motivation and teaching of future scientists. I am very skeptical of such expedients as accelerated programs for those interested in science or any efforts to make a sharp vocational distinction between those interested in science and those who are not. It does seem desirable to provide programs in which the intellectually gifted youngsters, regardless of their ultimate specialization, can go farther and deeper. Experimental programs are showing that such programs can make it practical to give advanced standing in college and, thus, to cover more ground during the college period.

At the college level there are many improvements available for strengthening our scientific and engineering education. The liberal arts colleges, of course, are the principal sources of candidates for our graduate schools of science. The Wesleyan study and others have shown the remarkable success of some small liberal arts colleges in preparing men and women to become distinguished specialists in science. This stresses the importance of still further strengthening the teaching of science in this type of institution and, thus, attracting more college students to major in science and proceed on to graduate school. Increasing the number of science majors in the liberal arts college is one of the quickest ways to increase the number of scientists.

As the presidents of liberal arts colleges well know, there is also a shortage of *college* teachers of science, both in terms of numbers and quality. As we alert the nation to the need for more teachers of science in the secondary schools, we should stress the equally serious needs of our colleges, particularly those institutions where little research is done, as industry and other agencies have drawn the promising young material away by providing opportunities to do research and development and by higher compensation. I advocate more grants and fellowships to enable professors of science in liberal arts college to have time off from teaching to do research or to have first-hand contacts with creative work in science in our universities or in industrial or government laboratories.

Moreover, professional schools of science and engineering have suffered in competition for top-flight men. Against higher wages and other attractions offered by industry and other non-educational organizations, engineering schools are now more vulnerable and more in danger of serious deterioration than other educational institutions using scientists, chiefly because their young and imaginative graduates and teachers —especially those in the advancing, growing fields of technology—are more in demand for non-educational employment than any other group in our educational institutions.

The success of engineering education in attracting and holding more first-rate teachers will depend upon accelerating the development of more and stronger graduate programs. The graduate school and the research associated with it can provide engineer-teachers with the opportunities for professional activities and

growth as engineers which they now find chiefly in practice outside of educational institutions. In those engineering institutions where strong graduate schools exist and where there is a fruitful alliance with basic science, an environment satisfying to first-rate engineers has been better achieved.

We also need more engineers with more advanced training to meet the increasingly complex technological needs of our society. The engineering profession or our society no longer can be adequately served by a professional engineering education that is predominantly undergraduate. While this undergraduate education has great strength and a vital role in our total national educational task by providing a form of general education built around professional objectives, it must be extended by more advanced training both in educational institutions and in industry. We also must attract into the undergraduate schools more of the students who have intellectual qualifications for graduate work. While qualified recipients of the bachelor's degree in engineering frequently go on for graduate study in other fields such as the physical sciences and management, the amount of advanced study in engineering still seems small compared to the advanced study *required* by the professions of law and medicine.

Many engineering educators are also advocating changes in undergraduate engineering courses, and, after a long period of status quoitis, engineering education seems to show signs of the bold experimentation and innovation that marked it in its early days in the U. S. when it was struggling to throw off the unsympathetic sanctions of classical education. There is a spreading conviction that the engineering curriculum must include a larger content of basic science, less of its traditional compartmentalization and more emphasis on such fundamental functional aspects of engineering as materials, thermodynamics, fluid flow, and energy conversion. These concepts lead inevitably to a more fundamental curriculum for all fields of engineering, with specialization deferred to the last two years of the undergraduate program and even reduced in these two years in favor of pushing real specialization into the graduate years or into the in-service training programs given by industry itself.

In brief, we need more variety, differentiation, and innovation in our system: more graduate study in engineering but also more technical institutes and junior colleges; more stress on science in the liberal arts colleges but also the kind of undergraduate program represented by our engineering schools, where a sound general education is achieved in the environment of a professional school.

In undergraduate education of all kinds we need a differentiated system with institutions specializing in accord not so much with subject matter but with the standards of intellectual performance expected of their students. Whether undergraduate education is obtained in a liberal arts college or in an engineering school, it should be fundamental and never narrow. All these goals and concepts are important in attracting enough top talent into science and engineering and in achieving the quality of professional achievement these great professions must have.

I venture to express two hopes. I hope we keep in mind the possibility that a drop in business activity or in the volume of defense development or production could reduce the demand for run-of-the-mill engineers and scientists. Jobs temporarily might be hard to come by. Such adjustments, however, would not reduce, except temporarily, the demand for superior men; excellence will never be in oversupply for very long. Second, I hope we do not set as our goal an academic numbers race with the Russians. The Russian educational system serves the state, ours the individual. They are highly specialized in their scientific and engineering education, while we aim toward more fundamental generalized education, especially at the undergraduate level. Our objectives and our trends are more likely to serve our nation well and to give us the scientific and technological strength which will be indigenous and, therefore, in accord with our special qualities and ideals. Our goal should be to meet our own indigenous needs superbly well and not to engage in a numbers race.

Let us consider now those attitudes and values current in America which complicate our efforts to increase our ranks of scientists and engineers —for instance, the surprising amout of fear of science and of a misreading of what science really is. Some of this adverse reaction arises from anti-intellectualism, from the disdain and distrust toward the learned man and the realm

of reason which deface the surface of our mid-century period like the tropical fungus which blemishes the polished surface of optical glass. Some of the aversion has grown out of the part which science has been called upon to play in the development of weapons.

Antagonism towards science and engineering also has been engendered by a feeling that they are wholly materialistic and anti-humanistic. Even in this age of science we have residual legacies from the conflicts which swirled about great innovators like Roger Bacon, Galileo, and Darwin, and other discoverers. In fact, there is some evidence that we are in a period of fresh reaction against science.

The common attitude toward science is described bluntly in academic circles by well-worn observations, *e.g.,* the scientist knows nothing of the liberal arts and regrets it, while the humanist knows nothing of science and is proud of it.

This drawing away from science is related to an attitude of antagonism and fear with respect to scientists. The old cliché about the expert is applied to the scientist. The scientist, it is repeatedly said, should be on tap but not on top. Thus, he is considered to be merely one of the hired men who has no business doing anything but what he is told to do in the field of his specialty. I have heard no statement that the lawyer or banker or economist or production specialist should be on tap but not on top. I do not imply that the scientist has any right or unique qualifications to be on top. I am disturbed by the attitude that, because a man is a scientist, he is disqualified for public or private administrative responsibility even though he may have the qualifications. This attitude reflects something wrong in the relationship of the scientist to society's current estimate of the scientist.

I think that the scientist and engineer are themselves partly to blame for the manner their function in public affairs has been derogated. They have tended too much to professional parochialism. They have been preoccupied with their own trade secrets and too little concerned to communicate these secrets, except to each other, so that the public misunderstandings about science and technology can be diminished by facts and not aggravated by mystery.

But the humanist also has a responsibility for this hurtful condition. There is still too much of the separatist spirit among the lower reaches of the humanists, too much facile criticism of science as materialistic, too much envy of the scientist for his intellectual achievements, too much protesting that only in the liberal arts can the true gospel of man be found. There has been a tendency to make the scientist the scapegoat for the ills of the modern world.

Our colleges and universities must share a heavy responsibility for this separatism, for they have acquiesced too easily in protective tariffs for intellectual vested interests. Is it not true that a spirit of snobbery on the part of both scientists and humanists, each derogating the other, is one of the most virulent forms of anti-humanism? It is the great humanistic responsibility of our colleges and universities to stress the kinship, indeed the unity, of all knowledge and to ease the vested interests and snobberies which sometimes appear among learned men. Objectivity, for example, is not the exclusive monopoly of science nor humanism the tight monopoly of the liberal arts. In these parlous times we need to remind ourselves of this and to seek to develop more sensitive couplings, interconnecting the sciences, the social sciences, and the humanities. We need to remember how the great humanists of earlier ages helped to create an intellectual and spiritual environment and attitude benign to the development of modern science, and how the great scientists have broken shackles of ignorance and superstition, given new leads in the social sciences, and profoundly influenced and enriched the philosophy and the understanding of men and thereby given a new depth and reach to humanism. When I hear our schools of science condemned as citadels of materialism and our liberal arts schools held up in contrast as the sole custodians of the liberal spirit, or when I hear that our schools of science have the only sound approach to education, I cannot but feel that the true spirit of liberalism and science is forgotten and the symbiotic relationship between the great fields of learning ignored.

The liberal arts of our time cannot be liberal if they reject or disdain science and technology. Thus, science and technology cannot fulfill their responsibilities if our scientists and engineers lack the humanistic quality which has been ascribed to the Athenians—the art of making

gentle the life of mankind. In our schools of science and engineering we must seek to cultivate this quality.

If American science is to continue to prosper, if it is to attract its proper complement of creative and gifted minds, we must combat the notions that science and engineering are incompatible with the great humanistic disciplines and that they are narrowly materialistic and destructive of human values. Scientists must make this true character of science better understood, not by an arrogant advocacy of science and technology as the only objective means to increase our understanding and well-being, but by the balanced and tolerant presentation of science as one of the powerful means by which man can increase his knowledge and understanding and still remain humble and ennobled before the wonder and the majesty of what he does not understand. When thus perceived and practiced, and when not misused for ignoble ends, science and engineering are a major means for "making gentle the life of mankind." If science can appear in its true colors and thus be recognized, we will have accomplished the major requirement for attracting enough first-rate minds into science and for maintaining a vigorous and advancing technology.

Grass-roots-ism and the Public School

By VAN CLEVE MORRIS
School of Education, Rutgers University

IT HAS BEEN a puzzle to both educational and political historians why the founding fathers failed to include in the Constitution any mention of education. Not only had the colonial mind already become conditioned to the great social value of learning, but Jefferson's predilection for a Platonic educational program to educate the "natural elite," as he put it, was widely shared. Knowing this, one might reasonably think that the framers of the Constitution would have considered the continual replenishing of the leader class, generation by generation, a matter of at least partial Federal concern. The failure to place education within the interests of the Federal government is now hailed as a stroke of political genius, supposedly because one of the greatest contributions of the American experiment has been the evolution of a system of public education controlled at the local level and, hence, always close to the people.

I venture the heresy that this is wrong. Subsequent history reveals that the role of education is strategic in the maintenance of a free society, and that an early recognition of this in high places would have had enormous influence in providing the kind of democratic mentality a free society needs to develop in its citizens and which, by implication, I believe we have failed to foster in our people.

It is futile to hold the founding fathers responsible for this failure of foresight. In all likelihood, they did not give the matter much thought at all, under the impression that education, by definition, was a private, religious, or philanthropic function. But what they failed to give attention to, justifiably or not, we must, and it is conceivable that social conditions have changed to such a degree that we shall be obliged to correct a situation which their early decisions have allowed to develop.

We always have wanted in America the development of a system of education capable of producing free men with free minds. In our enthusiastic rebellion against centralized authority, so characteristic of education in Europe, we have taken the view that the more decentralized we can make education in America, the more capable it will be to turn out free minds. This is an educational corollary of the traditional American political notion that "That government governs best which governs least." If the forming of young minds can be permanently disentangled from centralized governmental authority, then these minds will grow into independent minds, free of dogma, superstition, and the predispositions and outlooks on social affairs so characteristic of centralized governmental structures.

There is much sense in this view. We can properly be cautious of the kinds of imposition that authoritarian political systems place upon

the young mind. We want no Hitler, Franco, Perón, or Bulganin dictating the kinds of things we teach our youngsters.

But, in leaning over so far backward to prevent this kind of political domination of education, we inadvertently have become entangled in another kind of domination from which we will have difficulty escaping. In brief, we have backed away from the trap of centralism so far that we have fallen into the trap of localism. This is a new kind of political domination which seriously threatens the freedom of our schools and against which we are incapable at the moment of waging any kind of campaign. Our paralysis in meeting this challenge is the outgrowth of the contemporary tendency in American thought to over-romanticize local educational control almost to the point of making it a religion. Even if a community thinks poorly of its educational system, it never fails to remind itself that its schools are its own and external advice is not needed to correct whatever is wrong with them. But what is so outrageously ironic is that educators themselves have been seduced by this evangelism, and many of the most eloquent statements on local educational autonomy come from the educators, who ought to be the first to see the threat it poses for the school in America.

The political domination of localism, this new disease in American education, is manifest in the monthly dismissal of teachers for speaking their minds on the issues of the day; in the annual failures to renew contracts of teachers who want their pupils to examine American life critically and with open minds; in the case of Paul Richer, who, last winter, was asked to resign because he provided his students with an opportunity to look into some sensitive areas of human values—politics, religion, Communism—in his Iowa school.

But where it is most clearly manifest is in what cannot be seen—in that quiet intimidation of teachers day by day which inhibits their freedom to think freely and intelligently with their students on the large issues before us. It is at this level that localism is most pernicious. If teachers go on year after year teaching safely and securely in the standard subjects, if the administrators are approving and the boards of education satisfied, the impression is gained that everything is all right, that youngsters are receiving a steady and solid education. But what many of them are getting is merely the rehearsal of standard answers to standard questions, with precious little opportunity to exercise and develop the spirit of criticism and reflection which a free society so desperately needs in its people.

From the attacks on education today, many laymen have drawn the conclusion that a condition of vibrant freedom does exist in the school—in fact, a little too much so. We hear periodically, for instance, of the liberal waywardness of our teachers, particularly on political matters, and of the strange affinity that the teaching profession has for radical, even subversive, ideas. But such behavior is extremely rare in the teaching profession. As a group, public-school teachers in America must honestly be characterized as retiring, timid, sometimes even frightened, when it comes to controversial social questions. They do not symbolize, generally speaking, the kind of intellectual intrepidity we usually associate with intelligent and educated people.

It is perhaps beside the point, but nevertheless germane, to venture the guess that this insipid timidity of the teaching profession may account for the failure of more young people to choose teaching as a career. To enter teaching means to surrender a portion of your freedom and to become a quiet, proper, and orthodox agent of the status quo. The popular stereotype of the teacher is tragically and, I think, viciously exemplified by our television representatives—the symbol of dimwits, Mr. Peepers, and the symbol of hair-on-the-brain, Miss Brooks. Young people do not find magnetism in this kind of behavior.

This condition exists because of our historical love affair with what might be called "grass-roots-ism" in American education. It exists because the source of authority for the tenure of a teacher, the source of educational policy, and the source of the guides to professional conduct are local. As such, these sources are parochial and limited, incapable of granting that measure of freedom which the development of the democratic spirit in young people necessarily requires.

The typical American school teacher works and lives in almost daily contact with the individuals who control his tenure, his salary, his school's curriculum, and even his classroom methods. It is no surprise that he feels as hemmed in as he does, what with housewives, business executives, storekeepers, clergymen, and men-of-distinction-about-town constantly look-

ing over his shoulder and checking on his behavior. There is no profession in America whose day-to-day conduct is so constantly and meticulously supervised by the public eye.

When everybody gets into the business of supervising and inspecting, ideas die. The fresh and invigorating spirit of inquiry is smothered by the overlay of conformity and acceptance. And public education, as the instrument of a free society, is drained of its principal strength, *i.e.*, the capacity to provide youngsters with the experience of critical thinking by which they mature and grow. The school, in these circumstances, ceases being the arena for learning how to think and becomes merely the conveyor belt for the transmission of bits of information to the next generation.

Full recovery from this social malaise will require more than nostrums. It probably will require, if we ever attain it, a revolutionary change in America's conception of education. Certainly, it will require a gradual weakening of local autonomy over the school and a gradual emergence of control mechanisms that are not so socially and politically proximate to the educational worker. We should never wish to remove the teacher altogether from social control, for the school is, after all, a social institution serving the needs of the community. But we should hope in the years to come to erect new agencies of control which would oversee the work of the educational profession at a little greater distance than is now the case. Perhaps some such pattern as now exists in public higher education might serve as a starting point for discussion.

But whatever means is employed, it seems clear that the public school at mid-20th century is not the place where the free, inquisitive, critical mind is being developed. If the school in America is to serve us well, it must be given the latitude necessary for the continuous and thoughtful examination of public issues, and if the revolution here suggested could somehow be managed in the second half of the 20th century, the free mind might genuinely emerge as the special gift of the public school to the growing and deepening spirit of a democratic faith.

Reconstruction in Physical Education

By MORTON LEVITT
College of Medicine, Wayne State University
Detroit, Mich.

RECENT DEVELOPMENTS in the national sporting scene have focused attention upon physical education, specifically that aspect of it known as the team games area, and many concerned with our national health and morals have been pondering the value of physical education activities on all levels. These critics, in general, are the professional intellectuals who conceive of any form of exercise other than that of carrying books as either degrading or, at best, just plain foolish; economy-minded citizens, including boards of education, who regard anything other than the three R's plus the classics as needless frills; teachers of other subjects who decry the lack of professional standards in physical education and who bolster their own insecurity by scapegoating those they consider somewhat lower on the teaching scale than themselves; and teachers of physical education who, through circumstance or lack of conviction, either apologize for their choice of profession or become aggressive about it.

The disclosures that athletic directors of major universities participated in the altering of transcripts, while athletes were getting paid for work never done, merely served as fuses which ignited the flame and brought antagonism and opposition to a fever pitch. College faculties, long resentful of the cancer of national hysteria which decrees that football coaches be paid as well as, if not more than, top administrators, leaped into the fray alongside such strange bed-partners as conference commissioners, district attorneys, Federal judges, newspapermen, the FBI, gamblers, and New York resort keepers. All these, during the past few years, have been in the eyes of the public, in one role or the other, with reference to intercollegiate athletics.

The net result of this situation of considerable smoke with not inconsiderable fire has been that

physical educators find themselves more than ever on the defensive. One can offer no brief for the evils of intercollegiate athletics. The argument that a university has committed itself to a major building program based upon athletic receipts bears no more resemblance to reality than the plaint that a banker, guilty of unethical practices, must be allowed to continue his dishonesty because of the high mortgage on his home. The additional premise that varsity sports are the cornerstone of our national character, and an "American way of life" is in danger of being undermined if football players are treated like other students, is not worthy of the dignity of a serious answer. And those who speak feelingly of the value of the training received "on the fields of strife" had best be referred to Thorndike, *circa* 1901, regarding transfer of training. Further, the current notoriety is in no sense representative of a radical departure or new trend. Professional athletes, who have long provided behavioral paradigms for young men, have had more than their share of disrepute.

The real danger is that all may be smeared by the same brush; specifically, that all in physical education may be condemned on the basis of the discovered sins of a few of their contemporaries. A most important corollary of this danger is that physical educators may become even more defensive in their attitude to the profession with results that will be discussed shortly. Thus, major concern is not with the problems of intercollegiate athletics but, rather, with its influence upon more important aspects of a total health program.

A review of the history of physical education in this country brings to light its rapid growth at about the turn of the 20th century. John Dewey's classic "My Pedagogical Creed" (1897) gave impetus to the movement for a widely diversified curriculum. With other of the so-called frills, the field has been almost constantly under attack from one side or another ever since. Swedish gymnastics and marching were replaced by the local variety of arm-swinging which soon gave way to competitive sports. As one of the aftermaths of a soul-searching known as the Carnegie Report (1929), occasioned by a situation not unlike the present furore, the games program was temporarily threatened by a testing and measuring regimen. These supposedly antipathetic forces proved finally to be close friends, *i.e.*, one served as an apologist and publicist for the other. It was possible to prove that games improved physical efficiency as measured by tests and that this same physical efficiency improved game performance. At least this is how it appeared on the surface. At the height of this movement, no self-respecting physical educator could be caught outdoors without a stop watch, a tape measure, and a performance graph. Walt Whitman's "teacher of athletes" had come of intellectual age, indeed, and all was measured, cited, isolated, and classified. Learned discussions of the value of the Burpee test upon the growth of the trapezius muscle were the rule and not the exception, and would-be gym teachers picked at cadavers alongside of embryo medics. Physical education had become truly a science. The new scientists posited hypotheses, collected and quantified data, and made logical generalizations. Certainly no one could quarrel with this approach; fellow teachers were pleasantly respectful while administrators listened eagerly to the counsels of the health experts. No one could complain — no one, that is, but the experimental groups, formerly known colloquially as the "kids." Lost in a maze between obstacle courses and Schneider efficiency tests, the children could be distantly heard complaining that gym might be a new science but it wasn't any fun.

Fortunately for all concerned, the war provided a hiatus, and when it was all over, the Army Air Force's official concern with physical fitness ratings had not produced a species of man any more superior to that produced by the Naval Air Force's official concern with the effects of a team games program. In addition, educators who had been in a branch of service were a statistic themselves for so long that a natural repugnance associated with the whole area came into being. But the wartime emphasis upon psychiatry led to the wide growth of and interest in its preventive field of mental hygiene, and some physical educators, still suffering from what could loosely be called a professional inferiority complex, were fast to see the advantages in a marriage with this new field. How productive of offspring this union has been can best be illustrated by the titles of two recent texts in the field of health education: "Guidance of Children through Physical Education" and "Group Process in Physical Education." The

latter book includes chapters on "Group Therapy" and "Psychotherapy and Developmental Physical Education," whatever that means. Both books have sociograms, sociodramas and psychodramas in profusion. In essence, we find an approach suggesting to teachers that, since psychopathology can be so easily located in a gymnasium, most of their energies should be in this direction.

There is no doubt that the psychology of child growth and development can contribute a great deal to the understanding of all teachers, but one wonders whether the health education plant is the only place where the doctrine operates effectively. The scientists are back, the white coats are on once again, the trapezius has given way to the libido, and children wonder why the teacher looks at them so strangely. To borrow a term, one speculates on whether the whole field has not become a wee bit "schizophrenic" as a result of the abortive effort to look both ways at once and to become that which it is not.

We must also clearly delineate the positive contributions which physical education can make to the educative process. First and foremost, the program should have as its primary, although not sole, objective the furnishing of opportunities for large groups of people, children and adults alike, to have fun. This is so elementary that one is surprised educators could have lost sight of it. One could say categorically that any physical education program which ignores this fact is doomed to failure. Thus, self-testing activities on a chinning bar for someone who cares not a whit for chinning can have no meaning for the participant. In "The Future of an Illusion," Sigmund Freud draws an analogy between the curiosity of children and adults when he says, "Think of the distressing contrast between the radiant intelligence of the healthy child and the feeble intelligence of the average adult." One need only observe the spontaneous enthusiasm for health education activities in young children and then measure the resistance which a compulsory year or two of the program engenders in high-school and college students. What has happened? Where has the interest gone? And who is to blame? The fact that 15,000 students appear at major university stadiums on fall Saturday afternoons for their weekly exercise while less than one-fifth that number ever make the acquaintance of intramural buildings shows how badly we have failed. The attempts to become "professional" through tests and measurements and through personality analysis have reaped a harvest of locusts. Here is a meeting-ground for the critics of the varsity program and opponents of the whole physical education system.

This attitude in no way rules out the value of testing or the undeniably important influences of mental hygiene; it refuses, however, to substitute ends for means. One cannot argue against the fact that children should become more efficient in the area of physical skills. That they should also be happy is, further, an irrefutable fact. Our main contention is, nevertheless, that these values will derive naturally from a physical education program which encourages spontaneity, enthusiasm, and freedom. This consists principally of the process of supplying children with opportunity for happy expression with sympathetic leadership and untrammeled by confusions which exist in adult minds. The children are not confused; they come expecting fun and relaxation. It is only when we so structure the situation, stultifying and stifling their initial reactions, that we lose them.

In sum, physical education makes an extremely useful contribution to school life in and of itself. It needs no apologists, can stand on its own feet, and can and should use all other educational techniques not to bolster its status but to expand and implement its understanding of the nature of children. Teachers who closely observe children choosing playmates in free play situations need no sociograms. Those who are alert when a student captain battles for leadership with his teammates are seeing a real, live psychodrama. These opportunities are spontaneous and unstructured, and the understandings inherent in the psychological approach heighten perceptivity. When educators lose sight of basic realities, however, they are sounding the death knell of education. And when a physical educator speaks seriously for another objective outside of fun and/or relaxation, he is guilty of pettifogging. Down with the obstructionists; long live fun!

BRIDGE OF UNDERSTANDING?

By JOHN W. DYKSTRA
Utica (N.Y.) College of Syracuse University

THAT THE TIE-UP between travel and understanding other peoples has little basis in fact is a conclusion reached with regret after two separate sojourns of over a year in Europe. One of the most formidable barriers to the establishment of international rapport through travel stems from the fact that the average traveler will meet only those natives of the land he is visiting who have an economic interest in him: porters at the station, taxi drivers, hotel clerks and bellboys, guides, waiters, and proprietors of the souvenir shops. Few of these people expect repeat business from the foreign traveler and some operate accordingly. Yet, when the returned traveler reflects and speaks about his experience with Frenchmen, Englishmen, Germans, *et al.*, he is thinking about those few in the aforementioned occupational categories with whom he has had contact. Generalizations about national character based upon these limited associations are seldom flattering.

All too frequently, economic friction stems from the differences in customs concerning compensation for services rendered. Many a traveler lacks the tolerant anthropologist's outlook on different folkways when he first discovers that he is expected to tip the theater usher or the seller of programs. The peculiarities of an economic situation which may make one item seem ridiculously inexpensive by American standards, and another outrageously dear, often convince the traveler that in the second case he is being ruthlessly exploited.

The typical traveler's ignorance about prevailing prices and practices probably keeps international tension down as low as it is. When exploitation is reasonably discreet in form and extent, the victim is rarely aware of it. The cruder operators who proceed with an "all the traffic will bear" philosophy do most of the damage. The relatively sophisticated traveler realizes that it is considered quite Babbitt-like today to suspect foreigners of cheating him; but, when the evidence is incontrovertible, and thrust in his face in the form of a fantastically inflated dinner check, he is likely to create a nasty scene. Native diners are not favorably impressed by Americans on these occasions, but neither are they when the Yankees boost price levels by peacefully accepting a form of banditry.

Many of the aforementioned difficulties involved in transacting business in a strange land, with unknown price levels and customs, can be avoided by the traveler who signs up for one of the popular all-expense tours. Outside of purchasing drinks, snacks, and souvenirs, there is no necessity for tangling with local entrepreneurs. But, having avoided the sort of contacts that have more than the usual potentialities for misunderstanding, the wary traveler is left with virtually no contacts at all.

The pace of most organized international travel is such that there is simply little time left for cultivating understanding among peoples. The typical tour has so many cathedrals, museums, palaces, and castles crowded into the traveler's schedule that he most assuredly is going to have no time for people. Those who arrange their own itinerary rarely show any greater disposition to sacrifice a castle for a native. It is rather dubious whether the fleeting glimpses that the traveler gets of the inhabitants of a land between his visits to four-star Baedeker spots do much to clear his doubts and misconceptions about them.

Americans rarely come home with any basis for speaking knowingly about "the average European," and it is equally doubtful whether the American travelers provide the European with any insight into the American character. Giuseppe or Hans or Jacques rarely catches more than a quick glimpse of the peripatetic American being shuttled here and there by a domineering guide. They may see the visitor, fumbling with his third currency in five days, ridiculously over- (or under-) tipping. Since the vast majority of the visitors will be living far above the level of most of the populace, it will be surprising if envy is not a prominent element in the natives' reactions.

Not the least of the obstacles to any meaning-

ful exchange of ideas between the visitors and natives is the language problem. Americans are noted for their linguistic inadequacies, and among the more accomplished Europeans there still seems to be a distressingly large number who are unable to utilize English. An American who has been exposed to high-school or college language study can sometimes add humor to a situation, but rarely any understanding. So long as travelers are overwhelmingly uni-lingual, we are not likely to see great bridges of understanding built by them. The rare traveler who is willing today to miss a museum to chat with one of the local folk will probably have to go back to the circle of hotel clerks, souvenir-shop proprietors, and waiters to carry on a conversation in English.

Lastly, there is the damage done after the great journey is over and our summer wanderer has returned to his home community. Here he will be subjected to a barrage of invitations to speak on his European observations. He will be asked what the Swedes think about Communism, how the British like socialized medicine, and what the artistic trends are in France. The truth of the matter is that, if the returned traveler knows the answer to any of these questions, it is not because he learned them on his trip.

It takes more fortitude on the part of the returnee to stress the limitations of his trip as a learning experience than he can usually muster. It is too tempting to nurture one's role as an authority by providing plausible or probable answers. Skill is developed in elaborating single experiences or observations into convincing generalizations. Thus, those who hear the first-hand report of the traveler all too often receive an indiscriminate mixture of fact, conjecture, and hearsay which adds little to our understanding of other peoples.

Candor compels the admission that no bridges of friendship ever have been built on these summer jaunts. If one is aware of the potential sources of misunderstanding, and acts with reasonable discretion in his wanderings, the Europeans whom he encounters will probably think no less of Americans than they did before. That is all that can realistically be expected from the members of the invasion army that comb the byways of Europe each summer.

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A Decade of Development at Amherst[1]

By CHARLES W. COLE
President, Amherst (Mass.) College

THE DECADE, July 1, 1946, to June 30, 1956, has been a vital one in American higher education. It began with colleges swamped by a wave of veterans. It ended with educators bracing themselves for a new flood of students which will overwhelm the colleges and universities in the 1960's. In the interim, Amherst College has been much affected by the interplay of external forces —international, national, and local—the Korean War, the draft, inflation.

In coping with problems and in opening new educational paths, even at an institution as small as Amherst, it is impossible accurately to allocate responsibility for advances achieved. Successful results arise from the interplay of many people and factors—the groundwork laid by predecessors, the wisdom of the trustees, the faculty's devotion to education, the enthusiasm of the students, the effectiveness of the administrative officers, the efficiency of the staff, the loyalty of the alumni.

Thinking about the postwar college began during World War II with the establishment of a faculty committee on long-range policy and the creation of a similar group of alumni. The trustees felt that the end of the war would bring new problems and, at the same time, broad opportunities to initiate necessary changes. In 1945, the faculty committee, under Gail Kennedy, presented recommendations for fundamental changes not only in the college academic program, but in all areas of college life. The majority of these recommendations were adopted. Among the academic innovations instituted in 1947 were three two-year sequences of required courses for freshmen and sophomores in mathematics and natural sciences, social studies and the humanities. This "new curriculum," now 10 years old, has been revised somewhat in its details but, after 10 years, remains substantially the same as the one orginally instituted. Freshmen are required to take a course in mathematics and physics, another in English composition and humanities, and a third in history (survey of European civilization). In addition, each student must pass a foreign language examination. Those who do not must take elementary language courses until they show enough language proficiency to pass the test. In the sophomore year, students are required to elect either the course, "Evolution of Earth and Man," which covers a number of sciences, or a chemistry-biology sequence. In the social sciences, all sophomores take "Problems in American Civilization" and all are required to select two courses in the broad area of the humanities.

One of the major curricular problems has been making the work of *rite* (non-honors) students more meaningful in the last two years. About half of Amherst's seniors undertake honors work involving individual research and the writing of a thesis. Their work is surprisingly mature and the research of many honors students finds its way into the learned journals. But, for those who do not take honors, the last two years may be somewhat of an anticlimax. Though the college is now trying to institute seminars for *rite* students, so far no general solution has been fully acceptable.

Since the "new curriculum" was adopted, there has been a heavy flow of young teachers in and out of the ranks; at the same time there has been remarkable stability at the upper levels. In the last few years, on the average, the college has had just under 50 full professors, about 18 associate professors, 21 assistant professors, and about 40 instructors. But the number of instructors on the staff, as well as the turnover on the instructor level, is swelled by Ford teaching interns and Carnegie-grant visiting teachers. At the same time, faculty salaries, although on the increase, have failed to recapture the real wage level of 1940. During the decade, the average salary of instructors has risen 68%, that of assistant and associate professors 56%, and full professors 55%. It is the college's objective to recapture, as a minimum, the real income of the prewar period.

[1]Based on "Amherst College, 1946-1956: The President's Report."

The college has had considerable help in this effort in contributions and grants from outside sources, including the Ford grant of 1955 and the gift (from Charles E. Merrill of the class of 1908) of 18 apartments to house young faculty members.

The Amherst faculty has remained extremely active in the area of research and publications. Every science teacher is engaged in his own research and in nearly every case undergraduates participate in some phase of this research as part of the honors work. The principal areas under scientific investigation are the effects of radiation on lower organisms, studies in regeneration of tissues, low temperature work in physics, studies in chemical adsorption, research in student motivation and student behavior, and investigation of conditions for deposition of uranium in rocks of the earth. During the decade, Amherst's faculty has produced 46 books and many hundreds of papers in addition to works of fiction and reviews.

One of the college's major problems during the decade has been admission, and, although real difficulties are always present, the increased possibility of selection has produced a remarkable decline in the attrition rate. Of all who entered before the war, about 65% graduated. Today about 88% graduate and only a small proportion of the drop-outs results from academic failure. At the same time, the aptitude scores of entering freshmen, as measured by the College Board examinations, have increased substantially. The last class admitted before the war had average verbal aptitude scores of 504 and a mathematical aptitude of 519. The class which entered in the fall of 1956 averaged 595 and 645, respectively. At the same time, the preponderance of Amherst students has shifted in favor of public-school graduates. In the last four years, about 56% of our students have come from public high schools and 44% from independent schools. Those admitted are, on the average, the best qualified students the college has ever had.

With increasing tuition (the comprehensive fee for room, board, and tuition has gone from $1,017 in 1946 to $1,425 in 1955-56), the college has awarded larger scholarships with the average grant now close to $700. Ten years ago the average was about $500. Roughly 25% of undergraduates now receive scholarships.

There have been other significant changes in the student body. Physically, today's undergraduate is taller and heavier than his counterpart 10 years ago. He performs better in fitness tests. He probably turns out better work than any group in the past. There is an apparent increase in interest in religion on the Amherst campus as elsewhere. No Amherst class in the 20th century has sent as many graduates to theological seminary as the class of 1956 (16 out of 240).

Extracurricular participation has been at a high level through the 10-year period. An estimated 90% of the undergraduates take part in either intramural or intercollegiate athletics or both; about half take part in intercollegiate sports, and, while it might seem, on the surface, that higher mental ability would indicate weakness on the athletic field, this has not been the case. On the contrary, Amherst intercollegiate teams have done better, on the whole, than their prewar counterparts.

Among the major changes instituted after the war were revisions in the college's fraternity system. The trustees, in 1946, as a condition for the reopening of the fraternities after the war, stipulated that Amherst houses must abolish all discriminatory (racial and religious) restrictions on their membership. They were given a period of time in which to comply. Since then, three houses have severed their national ties and become local organizations.

Physically and financially the college has prospered in the decade. In book value the college's endowment has increased 83% and in market value 120%, but the endowment income has just about managed to keep pace with the cost of living index. Furthermore, the demands of education in the atomic age are so complex and expensive in terms of laboratory equipment, books, buildings, etc., that only through further major increases in endowment income and gifts can a sound future for the college be assured. Through the decade, Amherst received about $13,000,000 in gifts, grants, and bequests, with about 10% of this amount coming through the annual alumni fund drives. The individuals, alumni, and corporations who have given large amounts and grants have been extremely helpful not only for the general operation of the college, but also in maintaining scientific research.

Since 1946, the college has made several addi-

tions to its plant—a fine arts building, an alumni house, and an artificial ice rink. Two dormitories and a classroom building were rebuilt. Other physical changes included construction of faculty apartments already mentioned and building of a vault to house a radioactive cobalt source.

Amherst is closely connected with three institutions located off the campus. The Folger Shakespeare Library in Washington, under the Amherst trustees, has grown substantially. The college also resumed close relations with Doshisha University in Kyoto, Japan, shortly after World War II. Doshisha, founded by an Amherst graduate, has long had ties with Amherst. In 1951, Charles E. Merrill gave his estate in Southampton, L. I., to the college for use as a summer center for economic conferences by business and government leaders and teachers from the United States and abroad. Willard L. Thorp, former assistant secretary of state for economic affairs and now a member of the Amherst economic department, is director of the center.

As the problems of higher education in the 1960's become more apparent, the college is beginning to take steps to determine its role for the future. Studies are under way to find means of co-operating with the neighboring institutions, Smith and Mount Holyoke Colleges and the University of Massachusetts. Already the four libraries are working together in the Hampshire Interlibrary Center. Among the suggestions made by a faculty committee studying the possibilities are the institution of joint programs of instruction, perhaps even at the graduate level, and the pooling of various teaching and administrative resources.

REPORTS

Stimulating Intellectual Interests

By GEORGE CHARLES MOHLKE, JR.
University of Minnesota

SINCE EFFORTS to identify and educate students of high ability have not been fully appropriate or adequate, the Office of the Dean of Students, University of Minnesota, organized the 1956 Special Dean's Retreat. The objective was to stimulate the participating freshmen, chosen for high intellectual ability, to broaden their intellectual horizons and evaluate their basic purpose in obtaining a university education. We found ourselves seeking to bridge the divided campus and to use one part of the extracurriculum to stimulate interest in things intellectual.

The location of the program was the most significant initial problem. The formal atmosphere of a metropolitan campus and the fact that almost three-fifths of the students have to commute to the university make difficult an uninterrupted program on the campus. Taking as example the annual retreat organized by the Office of the Dean of Students for extracurricular leaders, we reserved a local all-weather camp as a site for the 1956 Retreat.

The criteria for defining the group of students to be invited to attend the Retreat were rank in at least the 90th percentile (90%) of their high-school graduating class, an A.C.E. test score of at least the 90th percentile (90%), and an honor point ratio of at least 2.00 (B) in their initial fall quarter at the university. Of the 205 freshmen who met the first two standards, only 86 earned an average of 2.00 (B) or higher during the fall quarter of 1955. Parenthetically, a program designed to stimulate the 119 students who did not achieve an average of 2.00 might have been, in retrospect, more appropriate.

The faculty participants, Ralph G. Ross of humanities and Norman DeWitt of classics, the principal architects of the program, lacked any guiding precedent in the organization and development of a program. Necessarily, their guide was their subjective evaluation of how they could couple their interests and training with the stated theme and objective of the Retreat. They considered the objective of the Retreat, the nature of the student group, and their role as principal participants in the Retreat program and, accordingly, developed a program based on the following:

1. The theme of the program of the Retreat: "The Aims of Higher Education."

2. The large number of students concerned with the basic sciences—either because they have selected a pre-professional curriculum, such as pre-medicine, or because they are students in the Institute of Technology—who requested that the program include some of the method and philosophy of science.

3. The special qualifications of the faculty participants to analyze and discuss the uses of language.

As preparation, each student participant was asked to read Alfred North Whitehead's "The Aims of Education."

The following was the program:

1. "Education of the Individual."
   a. "Education of the Gifted Person": an essentially autobiographical account of the educational experience of one of the faculty participants as the basis of a commentary on the education of the gifted person.
   b. "The Expression of Individualism in Mass Education": definition of the paradox of the American system of university education.
2. "Science—Its Method and Philosophy": an analysis of the language of science and its techniques of problem solving.
3. "Apocryphal Literature—The Story of Ruth": The Story of Ruth as demonstrating the possibility of equally valid but conflicting interpretations of art or conduct and the impossibility of finality in matters of judgment.
4. "Artistic and Expository Language": an analysis of Keats' "Ode to a Grecian Urn" and a paragraph from the Declaration of Independence to demonstrate the various uses of language and techniques of interpretation.

The students endorsed the program enthusiastically and expressed real interest in an attempt to prolong the Retreat experience. Their suggestions included the following:

1. That a series of informal, seminar-like groups involving the Retreat participants be established and be conducted by selected faculty members. The seminars could direct themselves to the discussion of topics of interest to the student participants and participating faculty members.

2. That a number of faculty members invite students into their homes, the purpose being to encourage informal discussion among students and between students and faculty in the hope that the needed impetus for students to engage more extensively in searching and intelligent discussion of intellectual problems would be provided.

The 1956 Retreat provides more than adequate reason for continuing and expanding such programs in the future. Freshmen certainly should have the benefit of a similar Retreat. Restricting the program to members of a single class is not to imply that able, well-prepared freshmen cannot understand a program designed for juniors or seniors. It does mean that the more advanced a student is toward a degree, the more that student is acquainted with the organization of the university, with the members of the faculty, and with organized student life. Advanced students are less uncertain about their vocational objectives and are almost always decided about their major field. This greater sophistication sets off older students from those who recently have entered the university and makes it somewhat easier for them to dominate any student group. This dominance is not necessarily based upon ability or training; rather, it is a distinction established by tradition and by a kind of prescriptive right.

Upperclassmen also can profit from a similar experience on a more advanced level. Such programs have an intrinsic worth which makes them important and desirable, regardless of any pragmatic justification for them. Like liberal learning, the Retreat program justified itself in its attempt to stimulate and cultivate intellectually gifted men and women.

The Honors College of Michigan State University

By STANLEY J. IDZERDA[1]

Michigan State University, East Lansing

BEGINNING in September, 1957, Michigan State University will have in operation an Honors College. Although existing colleges in the university have honors courses, the new college gives formal recognition to the university's special responsibility for students of superior ability and achievement. Such students will be challenged constantly by the most advanced work

[1]The writer, in his capacity as assistant to the academic vice-president, is director of the Honors College program.

for which each is ready and will be allowed greater flexibility in their studies.

The new program provides that all students who have finished their freshman year with a B+ average be given the option of entering the Honors College. Those who finally attain this average in their second year may enter the college then. Transfer students from other universities and from junior colleges, if qualified, may be given the same privilege.

Once a student has been designated an Honors College scholar, all requirements for his graduation from Michigan State (other than total number of hours) will be waived. He will be assigned an advisor in the college of the student's major interests. The advisor and the student will work out a program of study then which seems appropriate for the individual. This program will be subject to approval by the Honors College Committee, which will have to make certain that both the special discipline and general education are represented in the student's program.

Such a course of study may include any of a number of possibilities: attaining of credit in some courses by examination, independent study under a faculty member, waiving of prerequisites for advanced courses, permission for qualified undergraduates to take graduate courses, etc. Acceleration, in terms of time to complete the degree, is not an objective; acceleration of subject matter is. The faculty committee which developed the Honors College plan did not contemplate less energy or time being devoted to the field of specialization. It did intend that the student would be able to take more advanced work in his chosen field just as soon as he is ready for it. Also, something in addition to the usual general courses could be provided in the areas outside the student's field of special interest.

When the student completes the proper number of hours and convinces his advisor that he should be awarded the baccalaureate degree, the advisor will take that recommendation to the Honors Committee of the college in which the student is concentrating. The diploma will note that the student is an Honors College graduate.

In order that the Honors College students may participate in a common experience which will foster *esprit*, as well as provide for more formal academic integration, they will have carrell areas set aside for them in the library and they will meet together periodically for seminars or colloquia. Other than this, they will live in the regular college dormitories, fraternity or sorority houses, and participate in extracurricular programs much as the rest of the student body. Thus, they will not be divorced from their fellows in the other colleges of the university. Nor will the university faculty slacken in its efforts to provide a program of high quality for the average student and to give such assistance as is needed to those whose general ability is high enough to enable them to do satisfactory work but who may be slightly deficient in other areas.

The faculty committee which developed the Honors College plan under the direction of the vice-president for academic affairs, Thomas H. Hamilton, commented in its final report, "It is assumed that the Honors College graduate will have mastered on graduation more subject matter both within and without his field of specialization than will other graduates. He will be more alive to intellectual concerns, more skilled in analysis, more comprehensive in judgment, and more cognizant of the responsibility of talent." These are high hopes indeed, and they may be realized but imperfectly in the case of any one student. Yet, with the establishment of the Honors College, Michigan State University will have provided at least the opportunity for their fulfillment.

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RESEARCH

Experiments in Teaching by Closed-Circuit Television

By SHELDON C. TANNER
Pennsylvania State University

EDUCATIONAL TELEVISION by either open or closed circuit is a comparatively recent innovation. What began as a partial, specialized use in the medical school was expanded by the armed forces and then adapted to the public school and college campus. Closed-circuit television has two very important advantages over the open or commercial television apparatus: it is less expensive, and any number of broadcasts of different courses may be made at the same time. For the past two years, under grants from the Ford Foundation through the Fund for the Advancement of Education, the Pennsylvania State University has conducted educational experiments with the closed-circuit device under C. R. Carpenter, director of the Instructional Research Program.

Business Law was offered during the two semesters of the past academic year, and it is being offered again during the present academic year. This was the introductory course usually required for all students in colleges of business administration. In addition to an examination of the nature and sources of law and the structure and jurisdiction of our courts, the course was devoted mainly to the law of contracts. Four separate experiments were conducted in this course during the past year, all of which were devoted to a study of the basic utility and limitations of televised instruction as an appropriate and effective educational medium. Following are the findings as disclosed in this project.

The main criticisms which have been leveled against televised instruction are the absence of personal contact of the television teacher and his students and lack of student participation. The first project was designed to overcome these obstacles in part by rotating students through the broadcasting room. For this purpose, 180 students were assigned to the television class and then divided into four groups, A, B, C, and D, of approximately 45 each. Each student was chosen by lot. The semester's work was then divided into three equal periods of one month each.

First Period. During the first month of the semester, Group A spent the entire month in the broadcasting room. This was a lecture hall large enough for the class, in addition to the televising equipment. Group B spent the entire period in a television room. This was one of a number of rooms containing several television receiving sets. Groups C and D alternated with each other and spent half the period in the broadcasting room and half the period in a television room.

Second Period. During the second month, Groups A and B exchanged places, Group A spending the entire period in a television room and Group B in the broadcasting room. Groups C and D again alternated with each other and spent half the period in each room.

Third Period. During the third month, all four groups divided the time equally between the broadcasting room and television rooms. This final arrangement was made so that every student would spend half the semester in the broadcasting room and half the semester in a television room.

Two fixed cameras were used in the broadcasting room, one to televise the instructor and the other to televise blackboard illustrations. Graduate students were used as proctors in each television room for the purpose of taking roll, attending all examinations, and checking the receiving sets. A common examination was given to all groups at the end of each month. The average grades for all four groups, in the three examinations, were 76.80%, 73.43%, and 75.56%, respectively. The semester average of all four groups was 75.26%. The effect on the achievement of each group, as the result of rotating the students in and out of the broadcasting room, is shown in the following table by the percentage deviation from the average grade attained by

each group, in each examination, and by the net deviation of each group in all three examinations.

Groups	First Period	Second Period	Third Period	Net Deviation
A	— .90%	— 1.62%	+ .75%	— 1.77%
B	+ 1.00%	+ 3.28%	+ 2.23%	+ 6.51%
C	+ .81%	— 1.60%	— .17%	— .96%
D	— .91%	— .06%	— 2.18%	— 3.78%

With possibly one exception, there were no significant differences in achievement between all four groups in all the examinations, but the differences between each group were so consistent as to justify some interesting conclusions:

Group A. Group A, which took all its work in the broadcasting room during the first period, earned a minus score in that period and also in the second period when it took all the work in a television room. These were the only two periods in which any group spent the entire time either in the broadcasting room or in a television room.

Group B. Group B, which was the only other group to take all the work in one room or the other, earned a plus score in both rooms and a significant net score of 6.51% in all three examinations. Television, then, was not a deciding factor in the achievement of either group. One group was inferior with or without televised instruction, and the other group was superior with or without televised instruction. Stated another way, instruction by television alone was not such a disadvantage as to enable an inferior non-televised class to attain the level of a superior televised group or prevent a superior group from maintaining its superiority under all three conditions.

Groups C and D. The two groups, C and D, which divided their time between the broadcasting room and television rooms in each period, were almost as consistent. Group C proved to be almost average, with a net score of —.96%, while Group D was below average in every examination, with a net score of —3.78%. After three attempts, neither of these half-and-half groups could equal the score of the superior group under any of the three conditions in which instruction was received.

The second experiment was to measure student attitudes toward televised instruction. This study was made by Joseph A. Murnin of the operational staff. For this purpose the following questions were submitted to the students at the end of the first month and again at the end of the semester: "After having participated in a TV section I find that I:

1. ——enjoy it very much
2. ——enjoy it somewhat
3. ——have no particular feelings about it
4. ——dislike it somewhat
5. ——dislike it intensely."

These same questions had been previously submitted to students who had taken an entire course by televised instruction alone. The course in Business Law, unlike all other experiments, was designed to meet some of the students' objections by permitting every student to take half the course by televised instruction and half the course in the instructor's lecture room. By employing the same questions, the students were again required to state whether they liked or disliked televised instruction as such, having seen any part of it, or more or less of it. True, their likes or dislikes could intensify with more or less of it, but at no point in the questionnaire were the students given an opportunity to express any preference for half the course by TV as distinguished from an entire course by televised instruction. The question, on this record, still remains unanswered.

Group A could not answer the questions at the end of the first month, since it had not yet experienced televised instruction. Groups C and D were combined, since they both experienced similar conditions. For simplification, the attitude statements were broken down into three main categories: positive, consisting of the first two responses; neutral, consisting of the third response; and negative, consisting of the last two responses. The frequency counts were then converted into the following percentages:

	FIRST PERIOD Groups:		END OF TERM Groups:		
	B	C&D	B	C&D	All
Enjoy it somewhat plus very much	37%	21%	59%	25%	36%
Have no particular feelings toward it	19%	18%	5%	8%	8%
Dislike it somewhat plus intensely	44%	61%	36%	67%	56%

There was an interesting shifting of sentiment during the semester. Group B became 22% more favorable, groups C and D became five per cent more negative, and the students who were neutral tended to shift toward the positive or favorable side at the end of the semester. Mr. Murnin suggests that the favorable shift by Group B may be accounted for in part by the mere announcements of its favorable scores during the semester. His final summation, however, reads: "It would appear that in general for this course the students who held a negative attitude towards televised instruction at the fourth week of the course retained this attitude to the end of the course. On the other hand, about half of those students who were neutral at the mid-semester became favorably disposed to TV instruction by the end of the term."

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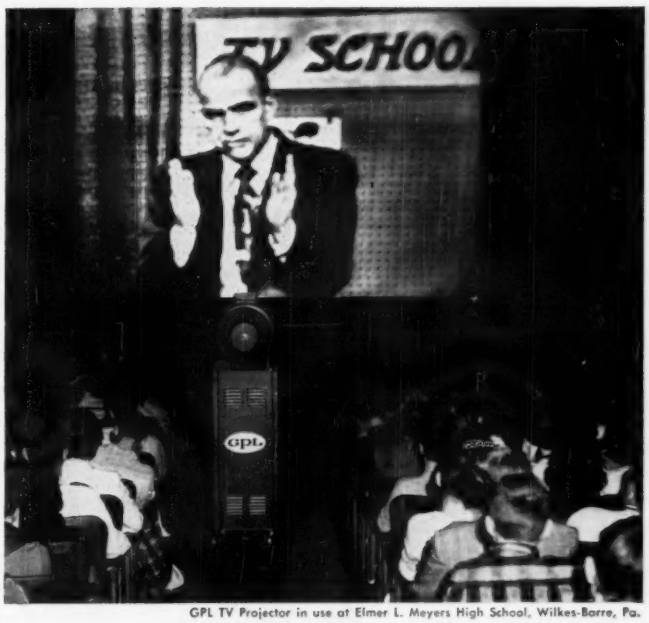

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GPL's closed-circuit *ii-TV* system being used at Nebraska Psychiatric Institute, Omaha.

The third and fourth experiments were scheduled for the second semester. The third measured the effects on student achievement by dispensing with proctors in the television rooms. For this purpose 160 students were assigned to the television class and then divided into two groups of about 80 each. During the first period, Group A attended the broadcasting room and Group B a television room. During the second period, the two groups exchanged places. The use of proctors was dispensed with altogether, except during the examinations, and the students in the television rooms were free, therefore, to cut if they desired to do so. The roll was taken each day in the broadcasting room. A common examination was given at the end of each monthly period. Following are the average grades for the entire class and for each group at the end of the first two monthly periods:

	First Exam	Second Exam
Average grade for entire class	71.36%	74.00%
Average grade for broadcasting room	72.27%	74.52%
Average grade for television rooms	70.46%	73.47%
Difference in favor of broadcasting room	1.81%	1.05%

The only distinguishing feature of this performance was the fact that the students in the broadcasting room made the highest score each time. The difference in favor of the broadcasting room was too insignificant to be attributed to any factor other than voluntary and compulsory attendance of the two groups. Even this factor could not be considered significant except by repetition during the third period with the same result. In other words, if the students in the broadcasting room always made the highest score, some significance could be attached to that fact.

The final project involved the use of "free choice" as a measure of students' attitudes towards the value of televised instruction. During the third and final month, all the students were given a choice between attending the broadcasting room or a television room. This election was made on the first day and could not thereafter be revoked. Of the total, 54% chose a television room in preference to the broadcasting room. This was an almost exact reversal of student sentiment at the end of the first semester, and this, too, can only be explained by voluntary as opposed to compulsory attendance. The average scores for this period show, for the first time, a substantial difference, and for this reason the following table sets forth both the average and the median scores for the entire class and for each group:

	Average Grade	Median Grade
Grade for entire class	77.61%	77.50%
Grade for broadcasting room	79.82%	77.50%
Grade for television rooms	75.41%	75.50%
Difference in favor of broadcasting room	4.41%	4.00%

For the third successive time, the students in the broadcasting room made the highest score, but on this occasion the difference is significant. The average grade was 4.41% higher, and the median grade was four per cent higher. More significant, with 54% of the students receiving instruction in the television rooms, only eight of them made an "A" grade of from 90% to 100%, while 22 students in the broadcasting room did so. Such a marked difference could not be attributed now to the form of instruction, and the only cause apparent was voluntary as opposed to compulsory attendance. This factor was not so pronounced when students were arbitrarily assigned to the television rooms, but when the students themselves were permitted to make the choice, it seems apparent that a significant number of indifferent scholars chose voluntary attendance, with the privilege of an unlimited number of cuts and with the possible hope of retrieving themselves by "cramming" for the examination. This, of course, was only an experiment, but it tended to show that, however economy-minded administrative officers may become in the utilization of closed-circuit TV as a medium of instruction, achievement standards are apt to suffer when students are left unattended in a television room and with the privilege of not attending at all.

These experiments show that televised instruction in this subject is feasible and, indeed, successful under ordinary standards of attendance and with competent instruction. Under normal standards of attendance, a bare majority of students would possibly prefer face-to-face instruction in the same classroom with the instructor. This is entirely understandable, but it fails to answer the needs arising from increasing student enrollments and acute teacher shortages so common throughout the nation.

Some criticism has been voiced about the behavior of students in the televised receiving rooms and, in a few cases, by the instructors

themselves. However, throughout the year, visiting educators from all parts of the U. S. and from many foreign countries, and also visitors from the press, were in almost daily attendance in both the broadcasting room and television rooms. These visitors usually noted that the frequent questions and problems addressed to the students as a group in the broadcasting room, and which were intended to be answered by acclamation, were verbally answered by the students in both the broadcasting room and television rooms. This much was rather eloquently described by a staff writer for the *New York Herald Tribune* (May 6, 1956), under the title, "A Fruitful Two Years for Professor TV."

No attempt was made by the sponsors of these experiments to interfere with the teaching or examining functions of the instructor. These matters were left entirely to his discretion. It is obvious, of course, that the experiments undertaken in these projects, or any comparison between the achievements of students in the televised or non-televised situations, would have little validity in the absence of competent instruction, and preferably by an instructor genuinely interested in ascertaining the effectiveness of television as a medium of formal education. Rather than ignore this problem as a personal matter, it may be excusable, and somewhat illuminating, to cite the editorial opinion of the *New York Herald Tribune* in the article cited above: "The lecturer, skilled in his subject, and perhaps equally important, versed in the art of dramatic presentation, gave his all to the performance."

Educational television must make available superior forms of educational media, enable competent teachers to reach a greater number of students, and also possibly reduce the unit costs of instruction. The first function was not particularly involved in these experiments. The second would have been applicable had it not been neutralized by the usually large enrollment in the writer's courses over the years (between 17,000 and 18,000 at this institution). One important fact, however, did emerge. It was possible to reduce a normal teaching schedule from 12 to nine hours per week and still carry the same or an even greater student load with less personal fatigue. If student achievements are not impaired, this factor may have some bearing in the ultimate acceptance or rejection of formal educational television by the teaching profession.

EVENTS

Status of *School and Society* in 1956-57[1]

DURING 1956-57, SCHOOL AND SOCIETY published 26 issues on various educational themes and questions, again with special stress on higher and teacher education. Among the topics were educational criticism, curriculum, administration, philosophy, history, television, and racial desegregation. In addition, there were reports and articles on education in various foreign countries, including Thailand, Iran, and Nigeria, which are usually neglected in the American pedagogical literature. The role of the U. S. in international cultural and educational relations was also treated in a number of contributions.

The special issue policy, introduced last year, was continued. The 37th annual report on college and university enrollments by Dr. Raymond Walters has been receiving increasing attention in the nation's press and periodicals. Other special issues dealt with professional education and education in the Middle East. The latter symposium, published Aug. 18, 1956, proved to be most timely in view of subsequent events. The co-operation by the contributors was commendable.

The first of a series of profiles of educational leaders was introduced to add to the journal's informative content. This type of article offers a critical evaluation of a living educator's thought and action. The first personality to be so treated was Robert M. Hutchins.

The new and the old features, the continuing policy of publishing controversial content and divergent views, and the particular interest in higher, teacher, and foreign education help SCHOOL AND SOCIETY maintain its status as a unique forum of educational thought and practice.

In general, because of the lack of sustained criticism and because of oral and written words of approval, the writer feels that SCHOOL AND SOCIETY is fulfilling its objectives in a satisfactory manner. There are some readers who feel that too much space is given to theory and to foreign education. Some are still impatient with the practice of publication of

[1]Based on the report of the secretary, Annual Meeting, the Society for the Advancement of Education, April 1, 1957.

conflicting philosophies. Others would like to read more of this or that field.

Naturally, not every member or reader can be fully satisfied, and some may never accept the journal. If all SCHOOL AND SOCIETY does is to parallel other periodicals in education, then it does not appear to deserve an independent existence. So far as varied content, the editor depends upon what is submitted, as well as upon what he commissions. One does not always receive what one wishes.

The new format of SCHOOL AND SOCIETY continues to elicit complimentary statements. The ingenuity of Stanley Lehrer is responsible for the quality of this innovation, as well as for the rise in advertising. The added revenue has made possible several larger issues during the year.

SCHOOL AND SOCIETY has survived a number of crises. There is reason to believe that it will remain alive and will enhance, as it has been doing for more than four decades, the quality of educational thinking and action.—W.W.B.

COST OF COLLEGE ATTENDANCE

THE AMOUNT that students spend in attending college has doubled since 1939-40, said Lawrence G. Derthick, U. S. Commissioner of Education, March 28, in announcing preliminary findings of an Office of Education survey. The expenditure per year for a full-time undergraduate attending public college this year averages about $1,500. A student in private college pays about $2,000 a year. The average expenditure in 1939-40 was $747 for a student in a public college and $1,023 for a private college student. Expenditures per student ranged from $200 to $5,500 per year. For the middle half of the group surveyed, the range was from $815 to $1,708. Figures include both living costs—clothes, room, board, travel, recreation or entertainment, etc.—and educational costs—tuition, fees, books, and instructional supplies and equipment.

The base year for the survey was 1952-53. Projections for 1957 have taken into account the Bureau of Labor Statistics' cost-of-living index and also the rise in tuition, fees, and other college costs. The survey revealed that, at tax-supported institutions in 1952-53, living costs represented five-sixths of the total, and at private institutions, two-thirds. Average tuition and fees at public colleges were about $175 and at private institutions about $550 in that year.

Students living with their parents at that time spent an average of about $1,000 a year. It cost about $350 more for a student to live in some other private home or dormitory and another $300 to live in a club, fraternity, or sorority. Ten per cent of the men students and eight per cent of the women were from families with annual incomes of less than $3,000. The average family in the lowest income group devoted about one-fifth of its income to its child in college. In the higher income groups, the average was less than one-tenth.

Families supplied 41% of the money for the college students; 29% came from students' own savings; and students earned 17% after entering college. Other sources were scholarships, five per cent; veterans' and vocational rehabilitation programs, five per cent; loans, one per cent; and miscellaneous, two per cent.

Two-thirds of the men students worked, earning an average of $486 a year. Half of the women worked, averaging $265.

More than 15,000 students from 110 colleges were included in the random sample for the survey, which was conducted by Ernest V. Hollis, director, College and University Administration Branch, U. S. Office of Education.

RISING ENGINEERING ENROLLMENT

MORE STUDENTS are preparing for engineering careers in 1957 than at any time since 1948. Figures compiled by the U. S. Office of Education and the American Society for Engineering Education show a total of nearly 243,000 studying in accredited engineering colleges in the fall of 1956. This total is almost equal to the all-time high of 1947, when the colleges were jammed with World War II veterans. And today's trend is still upward. These increasing numbers, according to W. L. Everitt, dean, College of Engineering, University of Illinois, and president, ASEE, emphasize the "overwhelming problem" of engineering colleges: a shortage of qualified teachers to meet predicted needs.

Graduate studies in engineering also show a rapid gain, though the numbers involved are still small. This year's 22,240 master's degree students is 20.8% more than the number last year, the largest increase reported in any category in this year's survey. About 3,400 students are working toward doctor's degrees in engineering this year (up 7.6%).

Engineers graduating with bachelor's degrees during 1955-56 totaled 23,547, compared with 20,200 in the previous year. In 1949-50, when the peak of World War II veterans were finishing their college careers, 43,160 engineers were graduated. But the numbers declined rapidly after that, and especially since the Korean War the nation has been feeling an increasing pinch in the supply of competent talent.

Mechanical engineering is the most popular field among engineering graduates of the last eight years, followed closely by electrical engineering and then by civil, chemical, and industrial engineering, in that order. But electrical engineering is today's most popular field, and 20% of this year's undergraduates expect to take electrical engineering degrees. Nearly 17% are in mechanical engineering, and civil, chemical, and aeronautical engineering (rising rapidly in popularity, too) follow in that order. Electrical and aeronautical engineering are growing fastest as college students' choices.

The same five fields figure in master's degree students' choices, with electrical engineering leading and mechanical, chemical, and civil following closely. The highest number of doctor's degrees awarded during

the past eight years has been almost consistently in chemical engineering, with electrical engineering second, mechanical third, metallurgical fourth, and civil engineering fifth.

The full report on 1956-57 enrollments is published in the March, 1957, number of the *Journal of Engineering Education,* official ASEE monthly.

PROTECTING THE NONCONFORMISTS

"A PLATFORM of legislative principles to protect the interests of nonconformists and of those not affiliated with established churches" was announced April 11, 1957, by Dr. Hermann J. Muller, president, American Humanist Association. The platform was prepared by the association's Committee on Church and State, of which George E. Axtelle, professor of education at New York University, is chairman.

The "platform for nonconformists" contains nine planks, of which the most important were summarized as follows:

1. No public money for sectarian schools.
2. No compulsory religious questions in the 1960 census.
3. Equal treatment for non-theistic and orthodox conscientious objectors to military service.
4. Admission of immigrants without any preference for clergymen or members of religious orders.
5. Abolition of tax exemption for the unrelated business income of sectarian organizations.
6. No special economic benefits for sectarian institutions in connection with public land development.
7. Churches which are made into national shrines at public expense should not be permitted thereafter to operate as sectarian enterprises.

The association's platform for nonconformists was based on a general resolution adopted at its last annual meeting, which included the following statements:

Subsidy of Church-Owned and Controlled Religious Institutions: We oppose conferring economic benefits upon any religiously controlled institution in connection with public land development. By religious institution we mean one organized for religious purposes or whose ultimate control is vested in religious authorities.

Public Aid to Sectarian Schools: We oppose public aid to non-public, denominational schools and endorse the general principle of "no public revenue for sectarian schools," whether through State or Federal aid to sectarian elementary schools or to manifestly church-controlled colleges.

HIGHER EDUCATION IN MICHIGAN

IN VIEW of its population and economic resources, Michigan is not doing as well as might be expected in providing for development of higher education in the state, according to John D. Russell, director of the Legislative Study Commission on Higher Education. Dr. Russell told the ninth annual Conference for School Board Members and School Officials at the University of Michigan, March 26, that enrollment in Michigan colleges and universities probably would double in the next 15 years, reaching a level between 250,000 and 300,000 students. He suggested an increase in the growing number, size, and quality of junior colleges as one means of meeting the demand for higher education.

Russell described the physical plants of the state's community colleges as "generally inadequate," and, he stated, "These colleges spend about $450 a year per student on the average for education and general purposes. This is probably not enough."

Specifically, he proposed:

1. The state should work to get all publicly controlled institutions accredited by the North Central Association.
2. Community colleges should strengthen their programs in occupational fields.
3. Community college laws should be amended to allow formation of community college districts encompassing two or more adjoining school districts.
4. Community colleges should be allowed to build dormitories on a self-financing basis.
5. Supervision, direction, and co-ordination of community colleges should be strengthened by appointment of a full-time director in the Department of Public Instruction, a citizens advisory committee, and a community college co-ordination council.

About 40% of community college support should come from state taxes, about 40% from local taxes, and 20% from tuition and fees. At present, students pay about 40% of their cost at community colleges, the state 25%, local taxes 20%, and "other sources" 15%. "The community college should be the first type of higher education institution established in a community," said Dr. Russell. "If a degree-granting college proves needed later, it should be established as a separate institution, and the community college retained without metamorphosis into a degree-granting status."

So far as privately controlled institutions are concerned, Russell recommended that additional funds be provided the State Board of Education to see that standards are met. In addition, he said, the statute controlling incorporation of higher education institutions might well be strengthened by stating that the usual academic degrees could be granted only by institutions incorporated under its provisions.

Other recommendations were that a uniform pattern of enrollment reports for colleges be developed; that further study be given the "confused pattern" of governing boards for publicly controlled institutions; and that, in the event of a revision of the state constitution, thoughts be given to the removal of the Superintendent of Public Instruction as a voting member of any board that controls higher education and that non-voting members on all institutional boards be eliminated.

N. Y. U.'S NEW LIBERAL ARTS PROGRAM

A NEW PROGRAM of co-ordinated liberal studies, to go into effect in Sept., has been adopted by New York University's Washington Square College of Arts and Science. Concerned with the basic required courses of the freshman and sophomore years rather

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than with major or minor fields of specialization, the program is the result of some five years of experimentation with the undergraduate curriculum.

Replacing the old required-elective program, the new plan requires co-ordinated courses within each of three major divisions (humanities, natural sciences, and social sciences) for all students in their first two years. The humanities sequence consists of courses in English fundamentals, the history of Western civilization, literary heritage, classical civilization, and the principles of effective thinking, plus an introduction to either music or fine arts; the natural science sequence, mathematics, physical science, and either biology, chemistry, physics, or geology; and the social science sequence, sociology, economics, government, and psychology. In addition, all students must take either one or two years of a foreign language, and all pre-dental and pre-medical students must take extra courses in the natural sciences.

Educational Ticker Tape . . .

(*Continued from page* 210)

ence, social science, art and literature, philosophy and religion.

Junior Year in New York, a new plan through which college students across the country can take advantage for one year of the educational opportunities in the N. Y. metropolitan area "urban laboratory," will begin in Sept. at New York University. The program will consist of a combination of regular courses and supervised off-campus study experiences in each student's field of interest. The university will provide easy access to the city's educational opportunities in the arts, international affairs, social service, business, communications, and other fields . . . **A Center for International Affairs** will be established by Harvard University next fall to provide research and teaching on basic factors in international relations with a special focus on American foreign affairs. Robert R. Bowie, Assistant Secretary of State for Policy Planning, will be director of the new center which will give advanced training for men planning careers concerned with foreign affairs.

A National Program in the Use of TV in Public Schools has been established by the Fund for the Advancement of Education to "try to find out whether the experience in a few communities [providing regular classroom instruction over TV] can be applied to most of our American schools," announced Alvin C. Eurich, vice-president of the fund . . . **A $350,000 grant** from the Fund for Adult Education will enable the Michigan State University College of Science and Arts, through its continuing education program, to foster an expanded interest in liberal arts education among adults of the state . . . **Ohio State University** has established a university-wide research group for community and regional planning and development. The new group will assist urban, suburban, and rural areas of the state in social and economic development . . . **The School of Music,** West Virginia University, has reduced fees to make a music education more readily available to

the state's students who desire to enter this professional field and thus help to meet the demand for qualified music teachers in the public schools.

Oxford University (England) and Northwestern University will co-operate in an American history fellowsh'p program for Oxford graduates. The George W. Ochs-Oakes Senior Scholarship permits Queens College, Oxford, to establish a program involving one year of graduate study at Oxford and a second year at Northwestern. The scholarship, which begins in the academic year 1957-58, is designed to encourage increased study of American history by English scholars regardless of their previous course of study or their intended career . . . **The effective use of part-time teachers** will be studied by the University of Bridgeport (Conn.) . . . **The Fund for Adult Education** is offering for 1958-59 approximately 30 grants to individuals for practical experience, university study, or combinations of the two, in liberal adult education. The objective is the improvement and advancement of leadership in liberal education for adults. Address inquiries to: Leadership Training Awards, Fund for Adult Education, 320 Westchester Ave., White Plains, N. Y. Applications must be received no later than Oct. 31, 1957.

COMING EVENTS . . .

Institute on College Administration for presidents deans, and other administrative officers, University of Michigan, Ann Arbor, July 15-19 . . . **Conference on problems of the superintendency,** Midwest Administration Center, University of Chicago, July 24-26 . . . **Workshop on Evaluation of Library Materials for Children,** University of Chicago Graduate Library School, July 31-Aug. 2.

NEW POSTS AND PROMOTIONS . . .

S. Walter Martin, dean, College of Arts and Sciences, University of Georgia, appointed president, Emory University (Ga.), effective in Sept., succeeding Goodrich C. White who will serve as chancellor of Emory . . . **Howard W. Johnston,** program officer, Governmental Affairs Institute (Washington, D. C.), named president, Anatolia College, an American-sponsored school in Salonika, Greece. Chartered by Massachusetts in 1894, the college moved from Turkey to its present location in 1924 and now has an enrollment of 600 boys and girls from 12-19 years of age. The curriculum includes courses in English and Greek and emphasizes liberal arts as well as science and practical training subjects . . . **Gordon N. Ray,** head, department of English, appointed vice-president and provost, University of Illinois, effective Sept. 1, when the present provost, Henning Larsen, retires . . . **Arthur H. Larsen,** dean, Illinois State Normal University, named vice-president. Promotions, effective July 1, include: to professorships, Victor E. Gimmestad and Milford C. Jochums (English), Cecilia Lauby and John L. Reusser (education), T. E. Rine (mathematics), and Lucy L. Tasher (social science); to associate professorships, Cecilia Peikert (education) and Vernon C. Pohlmann (social science); and to assistant professorships, Louise Farmer, Orrin Mizer, and Bette Soldwedel (education), Vivian Tasker (special education), Samuel Hutter (psychology), Ila Karr (library science), and Hattie Lundgren (home economics).

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Harvey D. Willson, treasurer and business manager, University of Denver (Colo.), appointed vice-chancellor for business and financial affairs . . . **James E. Russell,** associate professor of education, Teachers College, Columbia University, will become secretary, Educational Policies Commission, effective July 1 . . . **Frederick H. Burkhardt,** president, Bennington (Vt.) College, and Robert G. Hoopes of the Stanford (Calif.) University department of English, appointed president and vice-president respectively, American Council of Learned Societies . . . **Frank H. Bowles,** director, College Entrance Examination Board, named president . . . **William E. Vickery,** education director for the Greater New York area, National Conference of Christians and Jews, is now national director of the conference's Commission on Educational Organizations . . . **Elwood C. Kastner, Henry F. Rossi, and Thomas P. Robinson** appointed dean of registration and financial aid, registrar, and director of admissions, respectively, New York University.

Everett Walters and Frank M. Fletcher named dean, Graduate School, and director of orientation programs, respectively, Ohio State University . . . **J. Stuart Johnson,** head, School of Electrical Engineering, Purdue University, appointed dean, College of Engineering, Wayne State University (Detroit) . . . **Benjamin D. Van Evera,** co-ordinator of scientific activities, the George Washington University (Washington, D. C.), named dean for sponsored research . . . **I. W. Cole,** director, School of Journalism, Pennsylvania State University, will assume duties in Sept. as dean, Medill School of Journalism, Northwestern University (Evanston, Ill.). Promoted to professorships: George A. Beauchamp (education), Harper W. Boyd (marketing), and Glen E. Mills (public speaking) . . . **Paul M. Heberling,** director of treatment, State Penitentiary, Rockview, Pa., appointed dean of men and director of placement, Juniata College (Huntingdon, Pa.) . . . **Thomas K. Worcester,** director of publicity, Pueblo (Colo.) Junior College, named director of public information, Colorado College (Colorado Springs).

Thomas W. Gerrity, principal, Schools of Business, International Correspondence Schools (Scranton, Pa.), appointed director of the business schools . . . **Harriet Nordholm** of Boston University is now associate professor of elementary education and music education, University of Miami (Coral Gables, Fla.) . . . **Irvin Stewart** will resign, June 30, as president, West Virginia University, to assume full-time duties as professor of political science at the university.

RETIREMENTS . . .

Harold W. Dodds, who is retiring this month as president, Princeton University, will direct a study of the position of the college and university presidency, effective in Jan. . . . **Roswell G. Ham, Helen Patch, and Mary C. Stephenson** will retire this month as president, professor of French, and associate professor of psychology and education, respectively, Mount Holyoke College (South Hadley, Mass.).

RECENT DEATHS . . .

P. Raymond Nielson, 55, acting dean, Creighton University Graduate School (Omaha, Neb.), and head of its department of history, May 27 . . . **Walter W. Schmauch,** 75, former dean, Chicago Law School, May 29 . . . **John A. Burrell,** 67, professor of English, Columbia University, June 1.

RECENT *Publications*

The following are 1956 editions, except where indicated otherwise

1956 Directory of Counseling Agencies. Pp. 56. American Personnel and Guidance Association, Washington 5, D. C. $1.00.

XIXth International Conference on Public Education, pp. 158, 5 fr; *School Inspection,* pp. 371, 10 fr. (Unesco); *Teaching of Mathematics in Secondary Schools,* pp. 249, 8 fr. (Unesco). International Bureau of Education, Geneva.

NOERDLINGER, HENRY S. *Moses and Egypt: The Documentation to the Motion Picture "The Ten Commandments."* Pp. 202. University of Southern California Press, Los Angeles.

NORRIS, LOUIS W. *The Good New Days.* Pp. 132. Bookman Associates, New York 3. $3.00.

Planning Facilities for Health, Physical Education, and Recreation. Revised edition. Pp. 154. Athletic Institute, Inc., 209 S. State St., Chicago 4. $2.50.

POCHMANN, HENRY A. *German Culture in America: Philosophical and Literary Influences, 1600-1900.* Pp. 865. University of Wisconsin Press, Madison 5. 1957. $7.50.

Sarah Lawrence Studies, 1957: A Selection of Studies by Undergraduates. Vol. 8. Pp. 104. Sarah Lawrence College, Bronxville, N. Y.

School Construction, 1955-1956. Pp. 154. Councils and Education Press Ltd., 10 Queen Anne St., London, W. 1. 15s.

SOROKIN, PITIRIM A. *The American Sex Revolution.* Pp. 186. Porter Sargent, Boston 8, Mass. 1957. $3.50 (cloth), $2.00 (paper).

STODDARD, ALEXANDER J. *Schools for Tomorrow: An Educator's Blueprint.* Pp. 61. Fund for the Advancement of Education, New York 21. 1957.

STOVALL, FLOYD. *Eight American Authors: A Review of Research and Criticism.* Pp. 418. Modern Language Association of America, New York 3. $3.75.

A Study of the Need for Additional Centers of Public Higher Education in California. Pp. 172. California State Department of Education, Sacramento. 1957.

TEN HOOR, MARTEN. *Certainties and Uncertainties in Education.* Bode Memorial Lectures. Pp. 56. Ohio State University, Columbus 10. $1.00.

THOMPSON, HELEN M. *Swierl: A Plan for Better Reading.* Pp. 163. Vantage Press, New York 1. 1957. $3.50.

VINTON, IRIS (editor). *Junior Book Awards, 1956.* Pp. 144. Boys' Clubs of America, New York 16. 1957.

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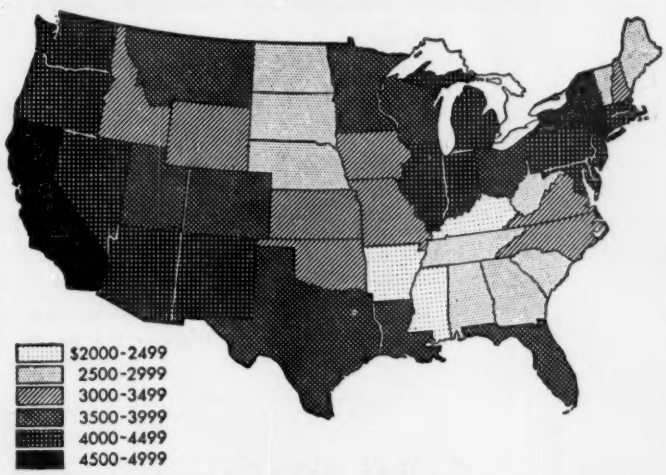

Source: National Education Association, Research Division, "Advance Estimates of Public Elementary and Secondary Schools for the School Year 1954–55." Washington, D.C.: The Association, November 1954, Table 6, p. 16.

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